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A REPORT
on
Zlotniki Lubanskie Dam

Prepared by
Project Treasure Island
for
Directorate of Intelligence, USAF
1954

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REPORT

on

Zlotniki Lubanskie (Goldentraum) Dam in Poland

This report contains information on the Zlotniki Lubanskie Dam on the Kwisa River which serves for the power production and flood control. The report is the result of a study of German open sources, published between 1930 and 1937 and listed in the attached bibliography. The most valuable among these are listed under Nos. 3 and 5.
The information was compiled in accordance with the P.W.D. questionnaire as follows:

I. Functions

A. The system of which the dam forms a part

To improve shipping on the Oder (Odra) River an extensive system of dams was built on its tributaries (see Fig. 1).

B. The dam within the system

The Zlotniki Lubanskie Dam (Fig. 2) is the first upstream dam on the Kwisa (Queis) River. It forms a reservoir and supplies the water for the peak-load power plant below the dam. This dam also helps maintain a steady pondage for the Lesna (Marklissa) Plant (see separate report on Lesna Dam and Power Plant).

C. Highways and/or railways on the dam or adjacent thereto

See Figs. 2 and 3 for the road on the dam leading to Vogelsdorf.

D. Navigation locks in connection with dam

There is no navigation lock.

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II. Location and designation

A. Data which will make possible pinpointing the installation

The dam is located on the Kwisa River downstream from the town of Zlotniki Lubanskie, Woj. Wroclawskie (see Figs. 1, 2 and 3).

B. Official, local and popular names of dams and dependent installations

The dam is named after the town of Zlotniki Lubanskie (Polish) or Goldentraum (German). The river is called Kwisa (Polish) or Queis (German).

III. Dimensions

A. Dam

1. Maximum and minimum head on dam

Normal: 28 m

Maximum: 30 m

Minimum: 20 m

Full capacity: 32 m.

2. Maximum and minimum depth of water below dam

No information available.

3. Total height of dam above river bed and above foundations

Height above river bed: 33 m

Height above foundations: 36 m.

(See Fig. 4).

4. Elevation of bottom of penstocks at dam

See Fig. 4.

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5. Total thickness at base and at high water level

Thickness at base: 27 m.

Thickness at crown: 5 m.

(See Fig. 4).

6. Slopes of dam faces

See Fig. 4.

7. Length at crown, across river bed and along spillway

Length of dam at crown: 170 m.

See Fig. 3.

B. Reservoir

1. Capacity

Total capacity: 12,000,000 cu m.

2. Length, width and depth (including profiles)

Length: 8.2 km (reaches as far as the town of Greiffenberg).

3. Area

No information available.

4. Detailed plan in the vicinity of the dam

See Figs. 2 and 3.

C. Navigation locks in connection with dams (structural details)

There is no navigation lock.

IV. Hydrological data (rainfall, flow, etc.)

The Kwisa River rises in the Giant Mountains and has the character of an Alpine river.

The catchment area is 284 sq km.

Medium flow: 4.5 cu m/sec.

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Minimum flow: 0.35 cu m/sec.

Maximum flow: 700 cu m/sec.

V. Foundation conditions and soil characteristics under and near the dam

The foundation is gneiss.

VI. Design data

A. Structural type or types

The dam is an arched gravity dam of rock-fill masonry type (Figs. 2 and 3).

B. Materials used

Rubble was used for the construction of the dam. The upper 6 m have a cement-trass facing 60 cm thick.

C. Design criteria

No information available.

D. Details and equipment

Penstocks

The penstocks consist of 3 pipes which run directly through the dam wall, as seen on Fig. 3.

Waste outlets

In the left half of the wall, there are, as seen on Fig. 3, 2 outlet pipes, in diameter 1.4 m and 1.0 m. See Fig. 4 for further detail.

Discharge tunnel

A tunnel through the right bank of the river (see Fig. 3), which served as a diversion canal during the construction of the dam, is now equipped with 2 waste outlet pipes, each 1.4 m in diameter.

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Side chute-spillway

As seen on Figs. 2 and 3 the dam has on the left a side chute-spillway, 48 m long with its crest 2 m below the crest of the dam. Through an opening in the side wall the water falls as a cascade into the river bed. The spillway section can be closed by 2 gates 22.5 m wide and 0.70 m high each. They can be operated electrically.

Galleries and drainage

There is an inspection gallery (Fig. 4).

The drainage consists of clay pipes 100 mm in diameter.

VII. Special data on power dams

A. Capacity (kva) present and proposed

Installed capacity: 6,010 hp (1935 source)
6,200 kva " "
4,340 kw " "

Average useful capacity: 1,500 hp.

B. Output (kwh/yr) achieved and proposed

6,000,000 kwh/yr (1935 source).

C. Powerhouse

1. Location

The powerhouse is located immediately below the dam, as seen on Figs. 2 and 3.

2. Structure

See Fig. 2.

3. Installations

The power plant has 3 turbogenerators of 2,860 hp, 2,150 hp and 1,000 hp respectively.

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4. Number, dimensions, location and type of penstocks

For penstocks see Chapter VI-D of this report.

D. Places of installations served; ties with power grids

The plant serves as a peak-load station and belonged before the Second World War to the "Provinzial-Elektrizitatswerke Niederschlesien". There is no information available on post-war conditions.

E. Location and description of transformer yards and transmission system

No information available.

VIII. Historical data

A. Name and background of the designer

No information available.

B. Dates of construction

The dam and power plant were built during the years 1919 to 1924.

C. Sources of materials

No information available.

D. Records of war damage, failures, removal of equipment, etc.

There is no information available, but it should be pointed out that since the end of World War II the part of Silesia where the Zlotniki Lubanskie Dam is located belongs to Poland.

E. Data on conditions of structure at any date

No information available.

F. Proposals for enlargement, alteration, or extension of function

No information available.

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IX. Graphical material

A. Photographs, especially those taken during construction

A photograph, shown in Fig. 2, is attached to the report.

B. Working drawings, general and detailed

Not available.

C. Record and publication drawings

Drawings attached to this report are shown on Figs. 1, 3 and 4.

D. Sketches by persons who have seen installation

Not available.

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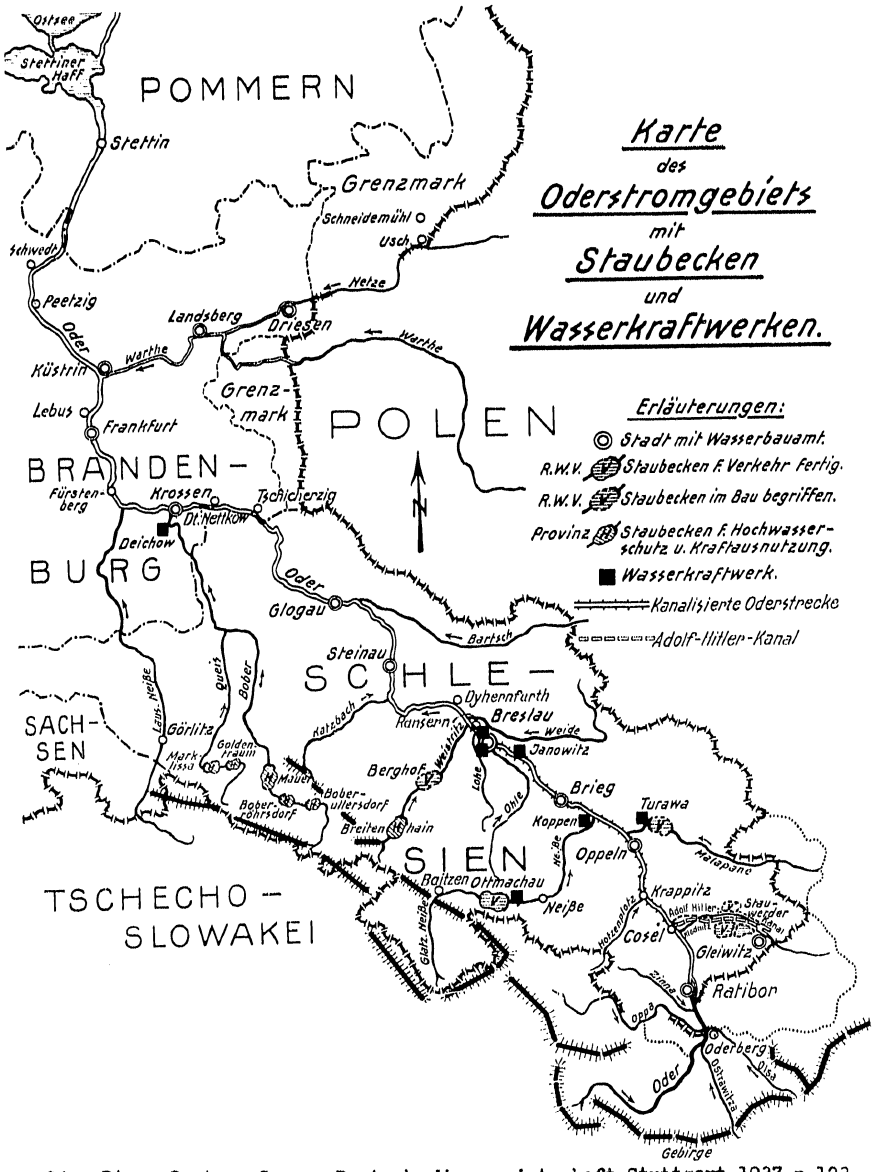

Oder River System. Source:Deutsche Wasserwirtschaft,Stuttgart,1937,p.123

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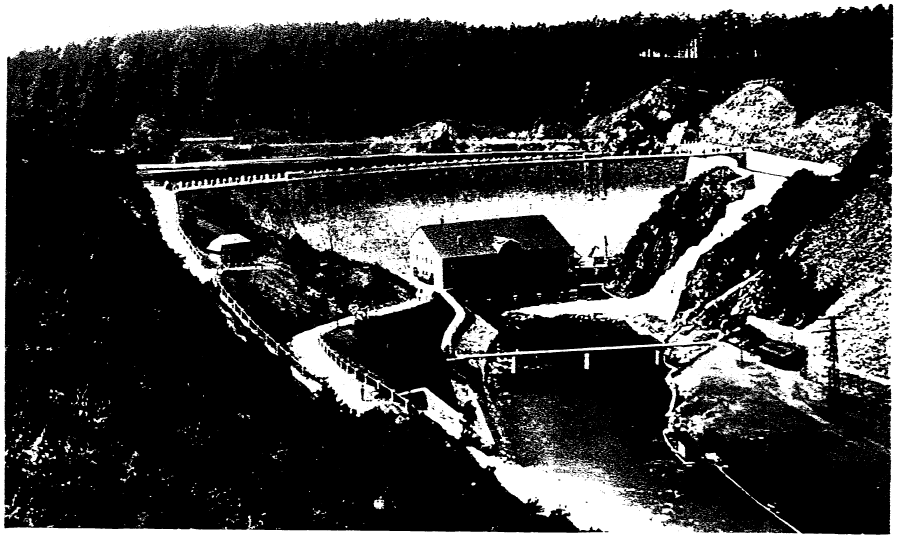

ZLOTNIKI KUNOWSKIE (SIEMIATKI) DAM, Inlow. Dam and Impounded Source: Die Wasserwirtschaft Deutschlands, Berlin, 1930, [illegible] . 134

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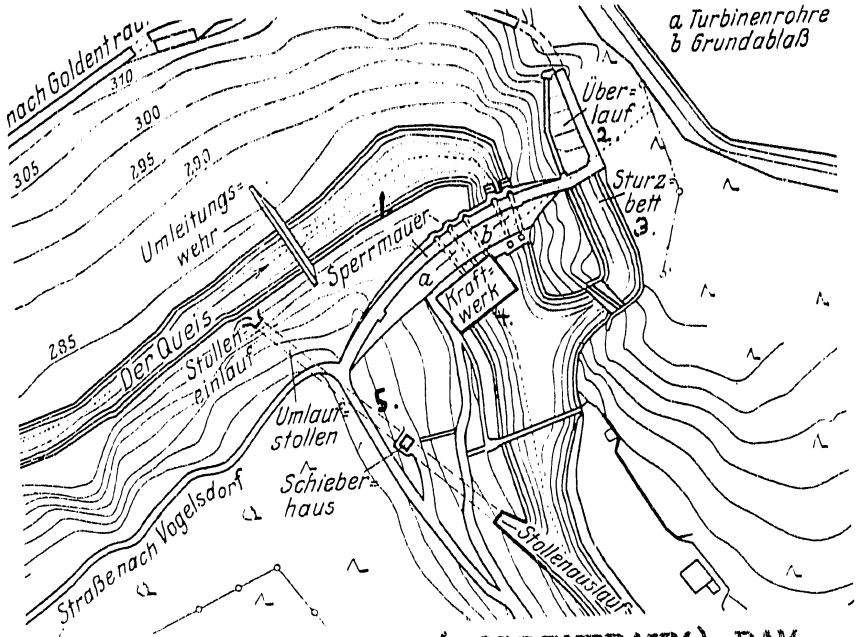

ZLOTNIKI LUBANSKIE (GOLDENTRAUM) DAM, Poland. Layout. 1)Dam 2)Spillway 3)Chute 4)Powerhouse 5)Tunnel a)Penstock b)Waste Outlet Pipes. Source: Kelen,N.,Talsperren,Berlin,1931,p.129

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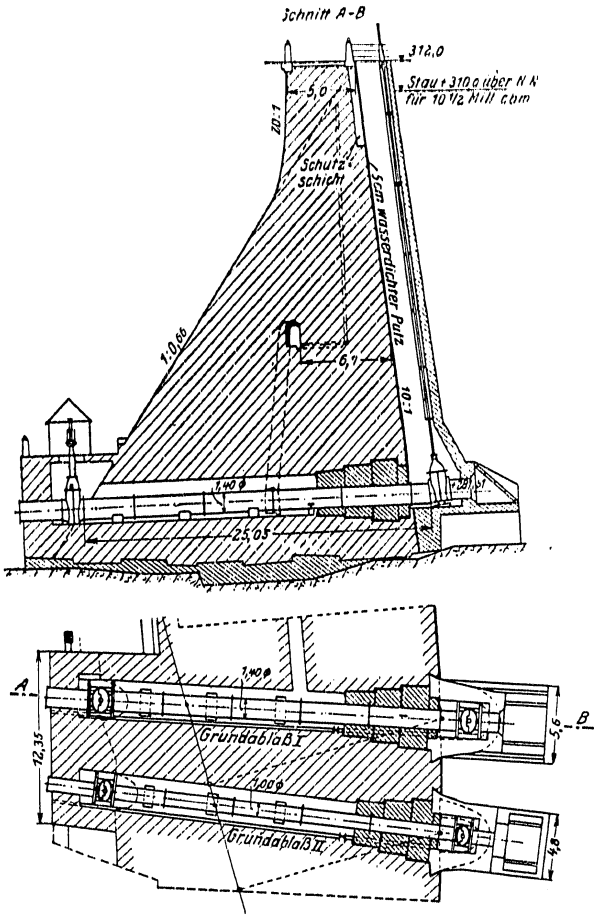

ZLOTNIKI LUBANSKIE (GOLDEN-TRAUM) DAM, Poland. Cross-Section of Dam and Section Through Waste Outlets. Source: Kelen, Talsperren, Berlin, 1931, p. 130

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